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JOINT PHOTOGRAPHIC INTELLIGENCE BRIEF

# POWER PLANTS

## AT

### SARY SHAGAN AND BALKHASH, USSR



ARMY



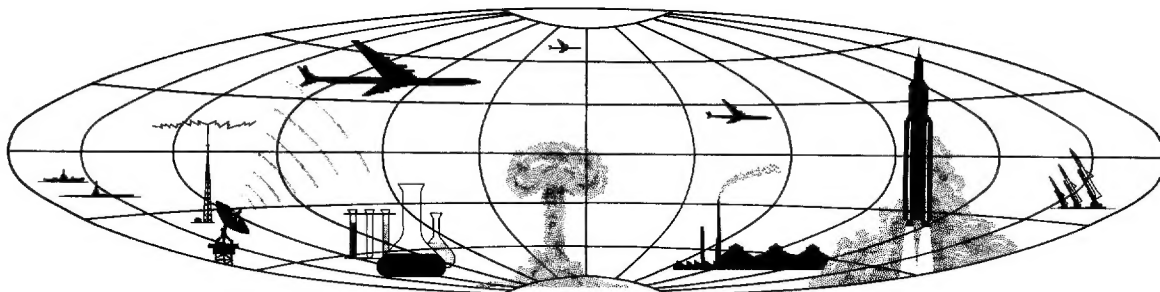
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## POWER PLANTS AT SARY SHAGAN AND BALKHASH

Introduction. This brief is in response to a request for an evaluation of the power plant in the Initial Support Area at Sary Shagan Anti-missile Test Complex, and for a comparison of this plant with the power plant in Balkhash (see Figure 1).

25X1D The [REDACTED] photographic coverage of the power plant at Sary Shagan  
25X1D (46-06N 73-36E) is cloud free, but the quality limits stereo analysis. The [REDACTED] coverage of the power plant at Balkhash (46-49N 74-57E) is clear, except for heavy smoke from the power plant and its associated copper smelter, which obscures some details.

25X1D Sary Shagan Plant. The rail-served power plant at Sary Shagan (see Figure 2) is situated in the Initial Support Area on the west side of the Sary Shagan railroad yard and servicing facilities. The plant is in an L-shaped, walled enclosure 570 feet long with a maximum width of 210 feet. In addition to the [REDACTED] power plant building, the enclosure contains a cooling tower, a coal-thawing building, the remains of a coal pile, and three small buildings, one of which is probably a guard-house. A spur out of the adjacent railroad yard passes through the coal-thawing building into the coal-storage area.

25X1D The photography indicates that the power plant at Sary Shagan originally had steam boilers and was coal-fired. By [REDACTED] the power plant had been converted to diesel operation. The power-plant structure was probably remodeled, since there is no visible evidence of any stack or stacks required by coal- or oil-fired boilers. Instead there are three short exhaust vents on the roof of a low extension along the north side of the probable former high-roofed boiler room. This configuration is typical of a diesel-powered installation.

25X1D The three vents, approximately [REDACTED] on centers, indicate the installation of three diesel-generator units, which are estimated to have a possible maximum capacity of 2.5 megawatts (MW) each. The size of the power-plant building indicates that the steam plant had an estimated maximum capacity of 5 MW. Since its conversion to diesel operation, it is estimated that its capacity, [REDACTED] was 5 to 7.5 MW. All switching and transformer equipment is contained in the structure, since there is no visible evidence of any outdoor switching yard. All power lines leaving the area of the power plant carry low voltage, the maximum estimate being 10 kilovolts (kv).

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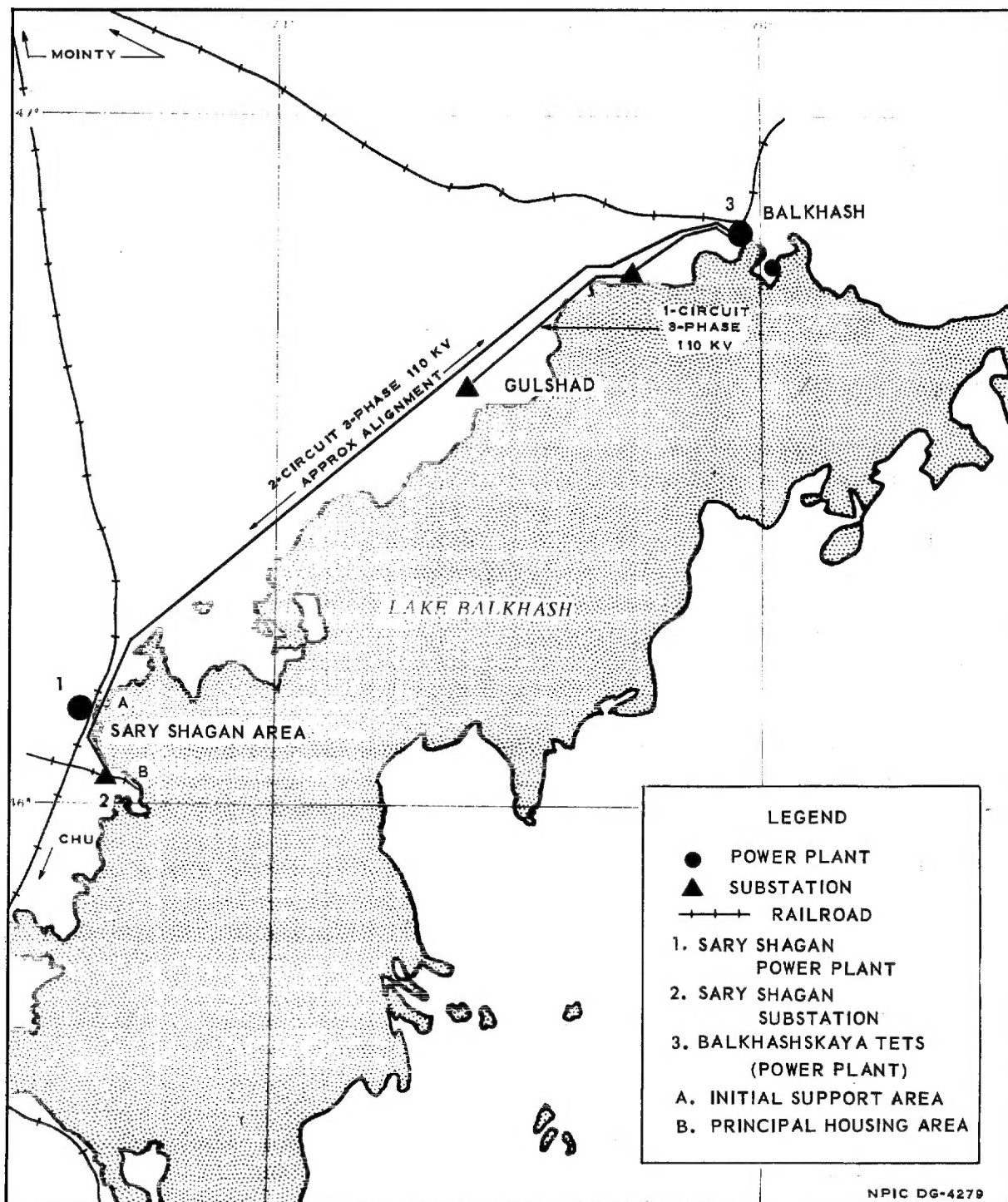


FIGURE 1. BALKHASH - SARY SHAGAN AREA

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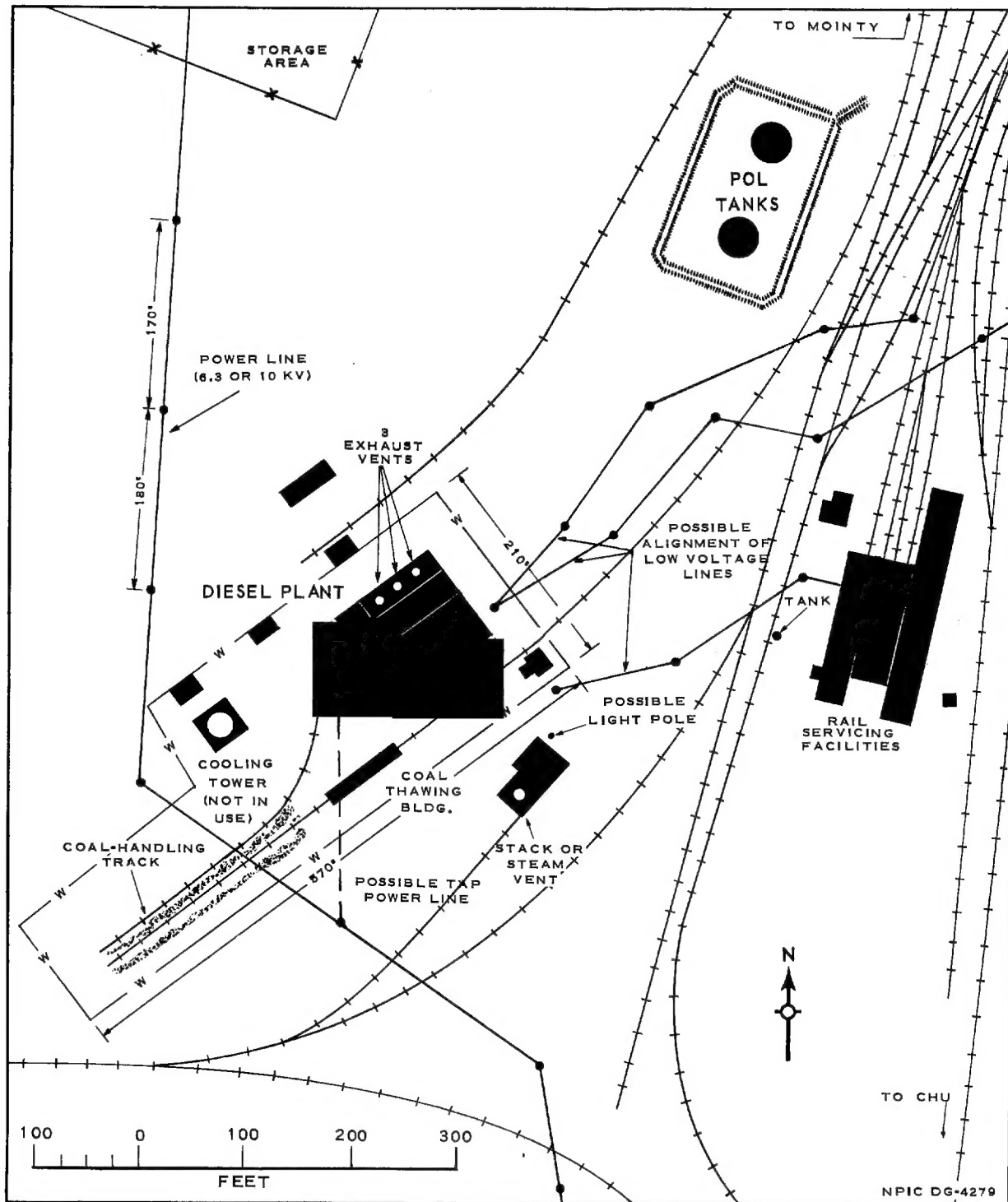


FIGURE 2. DIESEL POWER PLANT IN INITIAL SUPPORT AREA, SARY SHAGAN

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About 700 feet northeast of the power plant is a revetted POL storage area containing two vertical cylindrical tanks, each having an estimated capacity of 4,500 US barrels (189,000 US gallons). These tanks probably provide fuel both for the power plant and also for oil-fired steam or diesel locomotives at the railroad yard. Some locomotives are seen outside the locomotive servicing building (Figure 2).

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Balkhash Plant. Compared with the power plant at Balkhash, that at Sary Shagan is a small, relatively insignificant power-producing installation. The thermal power plant at Balkhash is reported to have a capacity of 120 MW. 1/ The [REDACTED] photography, however, indicates that this is too high an amount, and that an estimated capacity of 75 MW is more probable. The power plant is possibly only partly completed since one of its two stacks has only two of a possible three flues connecting it to the boilerhouse. Collateral information indicates that an additional 100-MW turbo-generator will be installed eventually. There is no photographic evidence that this construction has begun. 2/

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A 2-circuit power line carrying 100-kv power ties the switching substation (45-47N 73-40E) (Figure 1) in the Principal Housing Area at Sary Shagan. This power line, possibly designed eventually to transmit 220-kv power, indicates that the Sary Shagan area could draw a good percentage of the output of the power plant at Balkhash if required. [REDACTED] transformers visible at both Balkhash and also Sary Shagan limit power transmitted to 110 kv. A third 110-kv power line transmits power from Balkhash plant to a substation in Gulshad (46-38N 74-21E).

Two additional power plants are reported at Balkhash. One possible insignificant power plant is visible southeast of the city. Smoke over much of the built-up area prevents complete analysis of Balkhash.

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## REFERENCES



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## MAPS or CHARTS

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2. CIA, IR. WAC 245, File 9018358 (S)

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